



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY  
GOVERNOR

LYNDO TIPPETT  
SECRETARY

**North Carolina Board of Transportation  
Environmental Planning and Policy Committee  
Meeting Minutes for August 2, 2006**

A meeting of the Environmental Planning and Policy Committee (EPPC) was held August 2, 2006 at 8:30 AM in the Board Room (Room 150) of the Transportation Building. Board Member Nina Szlosberg chaired the meeting. Other Board of Transportation members that attended were:

Conrad Burrell  
Mac Campbell  
Bob Collier  
Marion Cowell  
Nancy Dunn

Douglas Galyon  
G.R. Kindley  
Arnold Lakey  
Cam McRae  
Alan Thornberg

Other attendees included:

Bob Andrews  
Jennifer Bumgarner  
Glenn Dennison  
Bruce Ellis  
C.A. Gardner  
Terry Gibson  
Larry Goode  
Ricky Greene  
Rob Hanson  
Mike Holder  
Julie Hunkins  
Berry Jenkins

Tim Johnson  
Daniel Keel  
Neil Lassiter  
Don Lee  
Robin Little  
John Long  
Lacy Love  
Ehren Meister  
Kari Metcalf  
Mike Mills  
Mike Pettyjohn  
Andrew Sawyer

Derry Schmidt  
Joel Setzer  
Larry Shirley  
Amy Simes  
Jay Swain  
Cheryl Teeters  
Bruce Thompson  
Greg Thorpe  
Lyndo Tippet  
Don Voelker  
Marcus Wilner

Ms. Szlosberg called the meeting to order and circulated the attendance sheet. Ms. Szlosberg accepted a motion to approve the meeting minutes from the July 2006 committee meeting. The minutes were approved as presented.

Ms. Szlosberg began by commenting that about two and a half years ago, the committee worked very hard on rulemaking to establish state minimum criteria for use by the Department. We took some risks with that in terms of environmental protection and how the community might perceive this. One of the safeguards we decided to put in place were quarterly reports on criteria and the transparency for the public about how these are being used.

Daniel Keel, NCDOT Operations Program Manager, presented 1<sup>st</sup> and 2<sup>nd</sup> Quarter Reports on the State Minimum Criteria Project. Mr. Keel began by describing Criteria #8 on the report as the highway modernization feature; that is based on <10 cumulative acres per project and deals primarily with resurfacing, adding travel lanes, and correcting substandard curbs and intersections. Criteria #12 is the maintenance for repair of state highways, including secondary road construction, grading, paving, and stabilizing unpaved roads, cleaning ditches and culverts. Criteria #15 is the construction of new two-lane highways that involve <25 cumulative acres of ground surface. The majority of projects in the 1<sup>st</sup> and 2<sup>nd</sup> quarter reports fall under the modernization and maintenance criteria. The project lengths shown for Criteria #8 are high mileage projects because they are dealing mainly with widening and modernizing. Criteria #12 is where the majority of projects are falling; that are similar to those in 2005 which has to do with the secondary road construction getting back underway.

In the 1<sup>st</sup> quarter, we had 62 modernization projects, 66 maintenance projects, and three projects that were in new locations. For those statewide totals, we disturbed 196 acres. In the 2<sup>nd</sup> quarter, we had 35 modernization projects, 66 maintenance projects, and two new location projects for 115 acres of disturbed areas. Those numbers are also similar to 2005, which reflect the “Moving Ahead” program winding down. Mr. Keel then asked for questions.

Ms. Szlosberg asked about the status of getting this information on the web. Mr. Keel said IT is still working to resolve issues with getting this on the web site.

Ms. Szlosberg then introduced the next topic by recounting a television report about traffic and new technologies used to inform people about wrecks and problems on the road so they can navigate around them. On average, Americans spend 47 hours a year stuck in traffic. That is up from 14 hours in 1992. As a result we are wasting 12.3 billion gallons of gas. This translates into the problems we are seeing and trying to tackle as part of our policy decisions here at the department.

She also recounted a report aired on 60 Minutes about global warming. A NASA scientist warned that we are at the tipping point on global warming. If we do not do something radically different within the next 10 years in terms of the amount of fossil fuels we burn and emit into the atmosphere, it won't matter what happens after that. In the department, we had discussions on trying to shift some of our own fleet over to using alternative fuels. There is a lot of press about moving into alternative fuels. There is a new station that opened in Durham last week offering E-85, which is an 85% ethanol mix. In addition, there are many benefits to that, not just in terms of environmental benefits, but for our farmers and our agricultural society here in North Carolina. We thought it would be appropriate to talk about what's happening in the world of alternative fuels and look at ways we can be more proactive in that area.

Ms. Szlosberg introduced Larry Shirley, Director of the State Energy Office for the Department of Administration. Mr. Shirley began by stating there's a new day that's dawning in North Carolina in terms of energy use, including both what we do with our buildings, our vehicles, and liquid fuels. He briefly described the Department of Administration as the lead agency for

energy efficiency, renewable energy, and alternative fuels. The Department of Administration represents the governor on a number of boards, in particular the Governor's Ethanol Coalition, a national consortium of 33 states that works to advance the use of ethanol in the U.S. The State Energy Office began about 30 years ago in response to the Arab Oil Embargo.

Our trends in terms of energy use for the future are not looking very good. In particular, the fastest growing trend is transportation fuels. This is expected to grow much faster than our energy usage and much more than our population, unless we do something about it. The Energy Office because there's a growing consensus of opinion nationally and internationally that we may be peaking in terms of oil production worldwide. At the same time, China and India are growing at 8-11% annually. Demand is skyrocketing worldwide at the same time supply is about to go over the top.

Domestically we're not in very good shape in terms of oil production. We have been steadily declining in our domestic production since 1972. Right now, we're up to around 61-62% dependence on petroleum from foreign sources. We're not finding enough petroleum. For every three-four barrels we use, we find one.

The other compelling thing is where are the reserves that we do have? Two-thirds to three-quarters are under the sands of the Middle East. There are national security problems associated with this that are enormous.

North Carolina is partially vulnerable because we don't have any fossil fuels within our borders that we can tap in any appreciable magnitude. So when Hurricane Katrina and Rita hit knocking out all these platforms and refineries out around the coast, we found ourselves relying on two pipelines coming up from the Gulf for 90% of our petroleum. When they were knocked out, we did not get any fuel for 4-5 days in the state. We can only carry an inventory of about seven days.

For a sustained period of time, 29% of the nation's refinery capacity was knocked out and, two-thirds of the oil production and over half the natural gas production was unavailable. In North Carolina, we were extremely vulnerable and left with little capability to bring it in by ship, or truck in the event of a total cutoff or partial curtailment.

Another concern is the fact that our current practices shift so much money out of the state, which is not good for our economy. \$10-15 billion leaves the state annually now to pay for fuel. Much of it is heading abroad, some of it to West Virginia and Texas, but much of it abroad. The more we can make our own fuel in North Carolina, the more we can keep those dollars circulating in our economy and the jobs in the state.

The biggest challenge though may be the environment. Many of you know about non-attainment status and the problems that come from that. But the big issue is global warming. Every day there seems to be a new report suggesting the trends are accelerating, conditions are worsening and the melting is increasing; whether under the polar ice caps or under Greenland.

In North Carolina we found that our carbon dioxide emissions are tracking our energy consumption. This is essentially where we are seeing climate change occur; it's basically our man-made activities related to our energy use.

Our CO<sub>2</sub> emissions come primarily from our utilities and transportation sources; those are the two big culprits in our emissions of greenhouse gases that we have to tackle. This shows that areas would be inundated in Eastern North Carolina if we had a 1-foot to 1-meter sea level rise. The impact in this area would be devastating. It would be devastating to the towns, cities, farms, and our shellfish industry, and many other industries in the state. Currently the way it's being tackled is by the states taking the lead, not the federal government.

In North Carolina, there are things we can do about this. One of them is we happen to have a lot of biomass; energy from plants and waste. We can do a lot of things with it like making electricity. We can make the equivalent of two large power plants. We can also make the liquid fuels; ethanol, and bio-diesel. We can capture the methane from animal waste, waste from agricultural crops, from urban and wood waste; all these things can be made into liquid fuels. In addition, we can grow crops to make these liquid fuels as well.

Where is the biomass in the state? We've mapped it out county by county, and the state is rich with it. While there's a concentration in Eastern North Carolina, there's good coverage throughout the state.

In terms of alternative fuels, the state has been leading this effort both in terms of ethanol and bio-diesel, with bio-diesel being led by your own Department of Transportation. In the case of ethanol, the state motor fleet now has 5,500 vehicles that run on 85% blend of ethanol, and we don't use anything but E10 here in Raleigh for the rest of the vehicles. Our goal is to get more service stations involved so that the state motor fleet and other state vehicles can fuel on E85 in the field. In terms of bio-diesel, soybean oil, canola oil, or waste oil from restaurant can be used to make bio-diesels. Using bio-diesel, a 20% blend can be used in any truck and essentially any diesel vehicle. In terms of ethanol, any car can use a 10% grade with no modification. And it doesn't cost the state any more to buy flex-fuel vehicles, which run on 85% ethanol.

Last year the General Assembly passed a new law – the law requires state agencies and universities in our system to displace 20% of our petroleum use in vehicles by the end of 2009. We've got that program underway now. All the universities and departments are submitting plans to us and we'll submit progress reports on how they're doing.

We will tackle all these efforts in part through what we call our "Clean Cities"<sup>1</sup> programs. These are based in the Triangle region, in the greater Charlotte region, and in Western North Carolina. We're working to bring fleet managers and operators together to begin to make the transition and put service stations where they need to go.

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<sup>1</sup> Sponsored by the U.S. Department of Energy, the mission of the [Clean Cities Program](#) is to advance the economic, environmental, and energy security of the United States by supporting local decisions to adopt practices that contribute to reduced petroleum consumption in the transportation sector.

The benefits of bio-fuels are easy to see. They provide direct aid to our farmers who can use the feed stocks supplied by our farmers. In terms of greenhouse gas reduction, this is what E85 and bio-diesel do. If it is corn-based ethanol, you'll see an 18%-29% reduction in greenhouse gases, depending upon the conversion process. Cellulose ethanol can be made from wood waste, or switch grass of which that industry is now in the pilot planning stage. There was an announcement the other day that Georgia is building a cellulose ethanol plant. We've got one of the two largest companies in the world that make the enzymes that break down cellulose ethanol just 20 miles northeast of Raleigh. North Carolina wants to position itself to be the leader in the south, if not the nation, in the production of cellulose ethanol. If we can get to that point, there would be a tremendous reduction in generating greenhouse gas. This will also increase the "energy balance", which is the amount of energy you put in compared to what you get out. For cellulose ethanol it's a 10:1 ratio.

The increased use of Bio-diesel would cause a 78% reduction in greenhouse gases. These fuels are better for the environment, although not perfect. There is no silver bullet on any of these issues. It is going to take a combination of approaches, but it's a big improvement and it's one we can do here in the state.

These fuels are the only ones capable, at least over the next decade, of displacing a large amount of petroleum. We think corn-based ethanol can displace about 10% to 13%, of our gasoline requirements in the country. Cellulose ethanol has the potential to ramp that up to a 30% displacement. Cellulose ethanol, over time, with good R&D could come down to about \$30 a barrel equivalent.

Farmer income for producing the feed stocks and the crops could be significantly higher than what our farmers in North Carolina are getting right now for most of their crops, except tobacco. We think we can use conservation reserve land, particularly for the early plants, not prime farmland. And lower fertilizer and water inputs needed for these cellulose-based crops.

As drivers of national/state security, we want to lower dependence on imported oil. We want to get production coming from our farmers, and see business opportunities increase. It's a buffer to high and volatile prices, and because of our dependence on outside petroleum, we are vulnerable to price spikes. We've also got tax incentives and subsidies in the state. Applied nationwide this could be a \$40 billion industry. It could be very substantial and provide three-quarters of a million new jobs, primarily in rural areas.

Ethanol is essentially alcohol, and we have been making this in North Carolina up in the mountains for a long time, it has tremendous economic benefits mainly because it's biodegradable. This is one reason it's being used as a replacement now for MTBE. This additive was banned by the General Assembly a year ago, and now has basically been removed by the petroleum industry.

Ethanol production is growing rapidly. In fact, there will be 4½ billion gallons of ethanol made and consumed in the U.S. this year. This is going to ramp up quickly. There is now an

equivalent of about a third of the existing production now under construction. We have 95 plants producing 4.5 billion gallons, with another 34 plants under construction.

In terms of employment in North Carolina, a modest-sized plant, typical of the industry in the past, a 40-million gallon plant could produce 33 jobs directly. If we did 400 million gallons of production in North Carolina we could displace 10% of our gasoline usage. Minnesota has done that. They require 10% ethanol in every gallon of gas, and they are going to raise it to 20%. The result of 400 million gallons would be significant to our economy. We have three plants planned by one company in the state and they are about to break ground on the first one, which would produce 350 million gallons.

If we go to cellulose ethanol, it could mean a significant amount per acre revenue to farmers. Farmers would also get what's called a carbon credit. There's a carbon trading market developing now with people who need to get carbon credits willing to buy from people who produce it. In this case, our farmers would be able to get these credits over time.

Ethanol yield per ton of switch grass is 180 gallons yield per ton; average is 1,120 gallons per acre. So for a 40-million gallon refinery, it would take about 40,000 acres of agricultural production of switch grass. Corn would require four times that much, so it's better in terms of how much land we need. We think we can produce 30-36 million barrels per year of ethanol, if this industry fully develops in terms of cellulose-based ethanol, making it from many sources, including forest waste, mill residues, agricultural residues, conversion of tobacco land, etc. This equates to 1.25 to 1.5 billions gallons. With the state of our technology we could increase this to 2.4 billion gallons. If farmers were paid \$1.42 per gallon, and right now the price is well over \$3 a gallon for this retail, it would mean \$1.7 to \$2 billion a year for farmers.

If we built twelve 120-million gallon plants, which is being planned in North Carolina, if we increased this from three to twelve, it would be a one-time \$5 billion dollar boost to our economy. And economy-wide, both sustainable jobs and one-time construction jobs would number 22,000-27,000 jobs per year.

What is ethanol used for? You use it in what are called flex fuel vehicles that can run on regular gasoline or on an 85% blend of ethanol. It gives you great flexibility. There are now over four million of these [flex fuel vehicles] on the road. Frequently, they have primarily been sold to fleets, but often they are sold to individuals who are not even informed of it. This year GM and other automakers are introducing new models. So there's an increased amount of variety, styles, sizes, etc. of vehicles that will be offered.

In terms of fueling stations, you can put E85 in underground storage tanks that meet the December 1998 EPA standards. Although you have to replace the aluminum parts with stainless steel and clean the tank. But you can, if you have a tank that meets these requirements, do this fairly cost-effectively and efficiently. Otherwise you will have to put in a new tank.

Another important boost to our agricultural economy is the one billion gallons of diesel fuel annually that North Carolina uses. If we did just a 5% blend it would take 29 million bushels of soybeans, about a third of that if we did canola. That would be one million acres of soybeans.

Even more importantly farmers would buy a piece of the action. They would buy a piece of the plant and they would get a better return than the slight bump they might get in sale of the crop. We also have distributors of bio fuels in the state. There are now a number of options and opportunities. We have gone to state contract now for ethanol and bio diesel. There is a requirement that the state cut petroleum usage by 20%.

There are tax credits in the state. We will give anyone that builds a bio fuel manufacturing plant a 25% tax credit, no cap. We will give a 15% tax credit for infrastructure, tanks and pumps. In addition, there will be a 35% tax credit on renewable energy applications of any type – biomass, solar, wind, and hydro; up to \$2.5 million for business and industry (up to \$10,500 for residential and individuals). The national Energy Bill also gave some incentives. One is a set of renewable fuel standards. They said this nation will use 7.5 billion gallons by 2012. We will give a credit toward this of 2.5 gallons if you use cellulose ethanol. What is happening is a transition using corn-based and other starch-based ethanol to get at the cellulose ethanol. And they also offer a 30% tax credit for tanks and pumps.

These are the production plants in the state. Several of the grain growers want to do a 30-million gallon plant in Mount Olive. We have two small plants -- Piedmont Biofuels is a cooperative in Pittsboro. They are opening a 1-million gallon plant on September 25. Agri Ethanol is the company planning three large ethanol plants in our state, the first being in Aurora. Blue Ridge Biofuels is in Asheville. They plan a small 200,000 gallon facility initially that can be ramped up from about half a million to a million gallons.

Some of the projects going on:

- The Golden Leaf Foundation has gotten active in this area. They have invested in the Mount Olive plant, and they have also given a grant to NC State University to research alternative feed stock, including canola, switch grass and barley.
- We just had a field day for farmers in the northeastern part of the state on canola to get them comfortable and used to producing it—that's what Europe uses right now.
- There's assistance to farmers in the current Farm Bill (grants available). In the 2007 bill this will escalate greatly. It is expected the energy title will be a substantial portion of the Farm Bill next year.
- We have a state biomass council to bring all these people together and get them on the same page and working together.
- NC State University also received a major grant to convert the waste that comes off the bio diesel process, called glycerol, into useful products.

There are developing markets. Fleets, retail sites, cooperatives, state and local governments. We're seeing many of them participating now, and school systems putting them on school buses in at least three or four counties.

One untapped market is home heating oil. We need to expand distribution and in-state production. And finally, the effort now is sighting conventional bio diesel and ethanol plants, primarily using soybeans and corn. Next we will be testing and developing alternatives, such as canola and barley. Then sighting cellulose to ethanol bio plant in North Carolina, which is

something I could see happening in the next three years. And then, researching other types of feed stocks, like algae and others that can be used for bio diesel and ethanol.

In addition, we need to expand access to the public. This is the call we get many times a day. Where is a station I can fill up? We're reaching that threshold now where we need it in the field.

Ms. Szlosberg thanked Mr. Shirley for the presentation and opened the floor for questions. She then introduced Drew Harbinson, Director of Equipment & Inventory Control Unit, NCDOT to discuss what the department is doing.

Mr. Harbinson began by stating that NCDOT has been a proponent and progressive leader in the use of alternative fuels for many years. We were the first department to use it in any quantity at all. That started in the early-to-mid-90s when we began to experiment with bio diesel. We had previously experimented with methanol, which turned out to be unstable and did not work well as an alternative fuel. We experimented with C&G, propane, and with electrical vehicles. Over the years we've taken a broad approach to look at what makes sense for our fleet.

We're the largest single bio diesel user, other than the federal fleets, using about 2.2 million gallons a year. Our plans are to expand that to all 14 divisions by October 2006. One of the reasons we want to do this is because at the same time in October we're mandated to use a ultra-low sulfur diesel. The problem with that fuel is the loss in lubricity, and that has an affect on the engines. So by going to bio diesel, we're actually adding back some of that lubricity that you lose from the processing of the diesel fuel. We are currently expanding the use of Ethanol E10 to all 14 divisions, in addition to the continued use of small amounts of propane and C&G that we have experimented with. We still have one C&G fueling site in Greensboro, but the expense of that infrastructure has prevented us from expanding its use.

With the increased cost of gasoline, ethanol is becoming a more attractive alternative. I checked the prices and ethanol E10 is currently \$2.48 a gallon, the unleaded is \$2.38. So, there is a 10 cent per gallon differential right now. The ultra-low sulfur diesel that has been mandated for October consumes a large portion of the alcohol that is being produced in the country to assist in the processing of that fuel. So it's being diverted from ethanol into the ultra-low sulfur diesel. That will take care of itself when the production increases.

In the very near future, we're going to gradually begin to add additional fuel tank capacity dedicated to E85. GM, Dodge and Ford are now producing flex fuel pickup trucks, which makes it attractive for NCDOT. We could do the E10 very easily because you don't have to modify anything on the vehicle. For E-85 you must use a dedicated flex fuel vehicle. Now that these are available we are beginning to look at procurement of those as well. We are going to target the air quality in non-attainment areas of the state to expand the E85 tanks first. We're going to coordinate that with the purchase of the E85 flex fuel pickups. The downside to E85 is that it has a higher retention for moisture. We actually have two sites already converted to E85. One site at Wilmington currently uses one of our tanks at the depot. What happened is the fuel set for several months; it did not turn over quickly enough. As a result, we had multiple failures on the cars and on three of our vans that were flex fuel vehicles. So you have to have sufficient,



dedicated number of trucks in each of our divisions where we put one of these sites in order to ensure that the capacity or the fuel is turned over in optimum period of time.

Some of the barriers to the expansion of E85 is cost. To put in a typical tank, with a monitoring system, fuel master software that helps us track the inventory of fuel, the dispenser, and the island can cost between \$80k and \$100k. And that depends on the site that you put the tank in. So to install it, if we were going to use 42 counties as the non-attainment areas, the estimated cost to add one tank per would be between \$3.3 and \$4.2 million. To purchase the number of flex fuel pickup trucks would take approx. 30 of our pickup trucks to turn the fuel over in a sufficient period of time to avoid mechanical problems which would cost an additional \$480k per site.

If you did all 42 counties that we originally looked at, that would be 1,260 of the F150 class trucks, which could cost an estimated \$20 million to replace that many trucks in the fleet. We will be doing this on a normal replacement schedule. As we go about this over the next 4-5 years, it will be a gradual process. As we get a site completed, we'll buy the trucks to match up with that site.

Another problem we have is that not all of our sites have sufficient room to add a tank. We're limited geographically on the location that we currently have our sites on, and for logistical reasons we would prefer that the diesel, the gasoline, and the ethanol stay at the same site.

Right now, the supply of E85 is unstable. In one sense it's a good thing because the demand for E85 has shot up. All of this will take care of itself as the market adjusts and as the ultra-low sulfur diesel production is up to what it should be.

It has been suggested that the general public fuel at our sites. There are many barriers involved in doing that. Some of our sites are open 24 hours and we don't have dedicated attendants at our fuel sites. There are liability issues involved in having private citizens on our yards fueling, and how can you insure against accidents, injuries, vandalism, theft, etc. One of the biggest challenges is that the department and most other state agencies are fuel tax-exempt and the general public isn't.

Another problem we would have would occur during emergencies. After Hurricane Katrina hit, we had to make a decision on whether or not to continue to supply the other agencies at their current levels, given the fact that at that time there was about a six-to-seven day stretch where we couldn't get any fuel. We had just enough fuel in our tanks to run under emergency conditions. Our capacity to fuel our own fleet under emergency situations is tough enough, but to then have to deal with other public entities like cities and counties or private citizens would be almost impossible under those conditions.

Something that is often not looked at in the fleet, but something that we've been looking at for several years is the move to synthetic oils and lubricants. We've also considered increasing our oil interchange intervals. In addition, we've been using bypass filtration for about 4 years. We started out with 5,000-mile intervals between oil changes and moved that to 20,000 miles about 2 years ago. Last year, we again moved that interval to 40,000 miles. This is an area that has

been ignored and untried over the years, but we found that it has helped us tremendously. We inventory less oil and the cost of maintenance on the equipment goes down as well.

What's coming? Right now all the talk is centered about bio-diesel and ethanol. It's because that's the most immediately available fuel that we can use that does in fact reduce the harmful pollutants.

One of the things the department did was ask NCSU to look at the real duty cycle use of bio-diesel. The rap against bio-diesel by all of the previous data that had been collected by EPA showed that by using bio-diesel you could reduce the particulate matters by 19%-21%. But for nitrous oxide, which is one of the most harmful, it indicated that bio-diesel actually increased the nitrous oxide levels somewhere between 3-5%.

We decided to take a different approach to this and find out under real world conditions, using our own trucks and drivers, given the ambient temperature, weather conditions, and moisture content in the air. We decided that we were going to test all of those things that add to the efficiency or lack thereof, of the diesel engine. The results of that study were presented to the Transportation Research Board last January. Much to the surprise of the industry, it showed that the nitrous oxide levels under those conditions were reduced by 10%, which was significant. It overturned the general perception of using of bio-diesel. The state of Texas reversed a piece of legislation concerning the use of bio-diesel as a result of the study we did at NCSU. So it's had a national impact.

In the future you're going to see a lot of different things. Hydrogen-powered vehicles are going to continue to expand. Right now they're tremendously expensive to develop infrastructure and generate fuel. But that's going to be developed. GM is leading in something they call variable cylinder use engine; that's where you use six or eight cylinders to get up to road speed, and then the engine cuts back to four or six cylinders. There's a lot of new products coming on the market and we'll see a lot more in the future.

Ms. Szlosberg asked for questions.

Ms. Szlosberg suggested that for every problem there is an opportunity. She heard in the presentation that one of the problems we are experiencing is we do not have enough vehicles in usage to turn the fuel over, which retains moisture in the fuel and is causing mechanical problems in our vehicles. So we need to turn the fuel over more which in turn will cause deficit of fueling stations in the field.

Ms. Szlosberg stated that there are about 120,000 flex fuel vehicles in the state. It seems there could be some sort of intersection between our problem and that need. And it sounds like we've got a list of barriers to that (e.g., liability issues and taxation issues). Are there legislative remedies for that? Where are we in trying to bridge the need and the gap?

Mr. Shirley explained that NCDOT, his office (State Energy Office), the motor fleet, and other state agencies are participating in the Alternative Fuels Consortium. It brings together the principal fleet users in the state along with our Clean City coalitions. The motor fleet is ready to

move vehicles around to wherever they're needed to help anchor that. We can't force drivers to go to that DOT pump if they could use a private station. But we certainly can strongly encourage them, so we're prepared to do that. I think the private sector may also offer a partial remedy. It could be beneficial for the public. That is, if we can get some private stations out there, state vehicles could anchor that as well; that will then increase access to the public. They can use the facilities as well. Mr. Shirley thinks there may be a combination of changing over some of our present filling stations to be E-85 capable, and also incite some of the private stations in these areas and target some of our vehicles there as well.

Ms. Szlosberg asked about the figure in the presentation of \$80,00-\$100,000 for creating a new filling station and a \$1,000 to retrofit.

Mr. Shirley explained the \$1,000 retrofit cost is if you already have a tank and pump that are usable (i.e., tanks since 1998). For tanks put in previous to that, which is most of our stock, they are not suitable. So we'd have to do a lot of additional tanks.

Finally, Ms. Szlosberg asked if the state energy office could compile a sheet of recommendations on how to make E-85 more available and how we (NCDOT) can be helpful, and how we can work together. Mr. Shirley replied yes.

Ms. Szlosberg asked if there were further questions. The meeting adjourned at 9:35 a.m.

The next meeting for the Environmental Planning and Policy Committee is scheduled for Wednesday, October 4, 2006 at 8:30 a.m. in the Board of Transportation Room (Room 150) of the Transportation Building.

NS/bn